In the Claims

1-34. Canceled

35. (New) An x-ray tube assembly comprising:

a plurality of independently controllable electron sources configured to emit electrons;

an anode disc;

a plurality of target electrodes disposed on the anode disc and configured to receive electrons emitted by the plurality of independently controllable electron sources and emit a plurality of fan beams of radiographic energy in response thereto;

a thermal feedback loop operably connected to provide feedback indicative of thermal conditions of at least one target electrode; and

an electron firing controller operably connected to the thermal feedback loop and configured to selectively fire the plurality of independently controllable electron sources to maintain a thermal load on the at least one target electrode below a given threshold.

36. (New) The assembly of claim 35 wherein the thermal feedback loop provides feedback indicative of a thermal load on each target electrode and wherein the controller is configured to disable an electron source corresponding to a given target electrode if the thermal load of the given target electrode exceeds the given threshold.

37. (New) The assembly of claim 35 wherein the thermal feedback loop provides feedback regarding a firing duration of the at least one target electrode and wherein the controller is configured to determine a temperature of the at least one target electrode from the firing duration.

38. (New) The assembly of claim 35 wherein the controller is configured to determine a thermal stress on the at least one target electrode in near real-time.

39. (New) The assembly of claim 35 wherein the controller is configured to fire each of the plurality of independently controllable electron sources in a sequential manner before re-firing of an electron source if no target electrode is under an unacceptable thermal stress.

40. (New) The assembly of claim 35 wherein the plurality of independently controllable electron sources includes a first target electrode at a first radial distance from a center of the anode disc to produce a first spatial coverage and a second target electrode at a second radial distance from the center of the anode disc that is different than the first radial distance to produce a second spatial coverage that is substantially similar to the first spatial coverage.

41. (New) The assembly of claim 35 wherein the plurality of target electrodes is oriented with respect to one another such that each fan beam has a similar spatial coverage.

42. (New) The assembly of claim 35 wherein each fan beam extends along a z-axis.

43. (New) The assembly of claim 35 wherein the plurality of electron sources includes a plurality of tungsten targets integrated in a beveled portion of the anode disc.

44. (New) A CT system comprising:

a rotatable gantry having a bore centrally disposed therein;

a table movable fore and aft through the bore and configured to position a subject for CT data acquisition;

a detector array disposed within the rotatable gantry and configured to detect x-radiation attenuated by the subject;

an anode disc positioned within the rotatable gantry;

multiple x-ray sources extending circumferentially about the anode disc and configured to project x-ray fan beams toward the subject; and

a controller operably connected to the multiple x-ray sources and configured to selectively fire the multiple x-ray sources based on respective thermal stresses on the multiple x-ray sources.

45. (New) The CT system of claim 44 wherein each x-ray source includes a tungsten electrode that generates an x-ray fan beam when bombarded with electrons from an electron source, and the controller operably connected to receive thermal feedback of each tungsten electrode to determine a thermal stress of each tungsten electrode.

46. (New) The CT system of claim 45 wherein the controller causes x-ray emission of each tungsten electrode based on a proportional duty cycle if no tungsten electrode is under an unacceptable thermal stress.

47. (New) The CT system of claim 46 wherein each tungsten electrode has a respective electron source, and wherein the controller disables a given electron source as long as the corresponding tungsten electrode is under an unacceptable thermal stress.

48. (New) The CT system of claim 44 wherein the multiple x-ray sources includes:

a rotatable anode disc having a beveled face;

a first tungsten electrode track disposed on the beveled face and extending circumferentially about the disc at a first radius; and

a second tungsten electrode track disposed on the beveled face and extending circumferentially about the disc at a second, different from the first, radius.